

Appl. No.: 10/541,075
Preliminary Amendment Dated October 3, 2005

Attorney Docket No. 58009-019900

CLAIMS

Claim 1 (currently amended): An articulated joint ~~[[11]]~~ for a knee brace to control femoral-patellar instability, comprising: a central support bracket ~~[[10]]~~ designed to be fixed to the patella area in order to carry out angular movements dynamically following the two reciprocally articulated sectors it connects, said joint ~~[[11]]~~ comprising a first shaped central plate ~~[[18]]~~, which may comprise a first housing for interchangeable insert means, and a second shaped central plate ~~[[19]]~~, which is opposite the first plate and which rests against the side of the knee, characterised in that said second plate ~~[[19]]~~ is thicker than the first and comprises a second housing which passes transversally through the plate and is designed to accommodate the sliding cursor support ~~[[15]]~~ of the patellar bracket ~~[[10]]~~, and in that the movements of the patellar bracket are imparted by a specially shaped lever ~~[[24]]~~ hinged, close to its center line, on the rotation centre ~~[[22]]~~ which corresponds to the one on which the second plate ~~[[19]]~~ is mounted on the femoral upright ~~[[16]]~~, that is on the inner sector of its end; one end of said lever ~~[[24]]~~ is hinged on the femoral upright ~~[[16]]~~ which provides its movement, while the other end is elbow-shaped and comprises a slot ~~[[26]]~~ also elbow-shaped and intercepted by a pin ~~[[27]]~~ integral with the cursor ~~[[15]]~~ of the patellar bracket ~~[[10]]~~.

Claim 2 (currently amended): The ~~[[An]]~~ articulated knee brace joint ~~according to any of the foregoing claims of claim 1, characterised in that the wherein a~~ central portion ~~[[12]]~~ of the bracket ~~[[10]]~~ is integral with a cursor ~~[[15]]~~ which is in turn inserted, with the possibility of sliding, in an appropriate housing inside the joint ~~[[11]]~~.

Claim 3 (currently amended): The ~~[[An]]~~ articulated knee brace joint ~~according to any of the foregoing claims of claim 1, characterised in that wherein the~~ ends of the femoral and a tibial uprights ~~pp(16,17)]~~ are inserted between the first plate ~~[[18]]~~ and the second ~~[[19]]~~, in such a way that they remain fixed in place.

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Claim 4 (currently amended): The ~~[[An]] articulated knee brace joint according to any of the foregoing claims of claim 1, characterised in that wherein~~ the first shaped plate ~~[[18]]~~ moves angularly in a different way with respect to the second shaped plate ~~[[19]]~~, since the first pin application points of the two femoral and tibial uprights ~~[[16,17]]~~ are different from the second ones.

Claim 5 (currently amended): The ~~[[An]] articulated knee brace joint according to any of the foregoing claims of claim 1, characterised in that wherein~~ said first plate is hinged on the a pin ~~[[20]]~~ on the outer sector of the end of the femoral upright ~~[[16]]~~ and on the a pin ~~[[21]]~~ on the inner sector of the end of the tibial upright ~~[[17]]~~.

Claim 6 (currently amended): The ~~[[An]] articulated knee brace joint according to any of the foregoing claims of claim 1, characterised in that wherein~~ said second plate ~~[[19]]~~ is hinged in a diametrically opposite way to the first, that is on the pin ~~[[22]]~~ on the inner sector of the end of the femoral upright ~~[[16]]~~ and on the pin ~~[[23]]~~ on the outer sector of the end of the tibial upright ~~[[17]]~~.

Claim 7 (currently amended): The ~~[[An]] articulated knee brace joint according to any of the foregoing claims of claim 1, characterised in that wherein~~ said support cursor ~~[[15]]~~ of the patellar bracket ~~[[10]]~~ makes dynamic linear sliding movements in the transverse through housing in the second plate ~~[[19]]~~, in order to move from a retracted position with the knee extended to an extended position with the knee flexed.

Claim 8 (currently amended): The ~~[[An]] articulated knee brace joint according to any of the foregoing claims of claim 1, characterised in that wherein~~ the linear sliding movements of the patellar bracket ~~[[10]]~~ are imparted by a specially shaped lever ~~[[24]]~~ which presents a rotation centre that corresponds to the pin ~~[[22]]~~ on which the second plate ~~[[19]]~~ is mounted on the femoral upright ~~[[16]]~~, that is on the inner sector of its end.

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Claim 9 (currently amended): The ~~[[An]]~~ articulated knee brace joint according to any of the foregoing claims of claim 8, ~~characterised in that wherein~~ the upper end of the lever ~~[[24]]~~ is hinged on the pin ~~[[25]]~~ on the upright ~~[[16]]~~ which provides its movement, while the other end, the lower end, is elbow-shaped, curved towards the inside of the knee brace, and comprises a slot ~~[[26]]~~ also elbow-shaped, intercepted by a pin ~~[[27]]~~ which is integral with the cursor ~~[[15]]~~ of the patellar bracket ~~[[10]]~~.

Claim 10 (new): The articulated knee brace joint according of claim 4, wherein the first shaped plate moves angularly in a different way with respect to the second shaped plate, since the first pin application points of the two femoral and tibial uprights are different from the second ones.

Claim 11 (new): The articulated knee brace joint of claim 3, wherein the first shaped plate moves angularly in a different way with respect to the second shaped plate, since the first pin application points of the two femoral and tibial uprights are different from the second ones.

Claim 12 (new): The articulated knee brace joint of claim 5, wherein said second plate is hinged in a diametrically opposite way to the first, that is on the pin on the inner sector of the end of the femoral upright and on the pin on the outer sector of the end of the tibial upright.

Claim 13 (new): The articulated knee brace joint according to any of the foregoing claims claim 8, wherein the linear sliding movements of the patellar bracket are imparted by a specially shaped lever which presents a rotation centre that corresponds to the pin on which the second plate is mounted on the femoral upright, that is on the inner sector of its end.

Claim 14 (new): The articulated knee brace joint of claim 6, wherein the linear sliding movements of the patellar bracket are imparted by a specially shaped lever which presents a rotation centre that corresponds to the pin on which the second plate is mounted on the femoral upright, that is on the inner sector of its end.

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Claim 15 (new): The articulated knee brace joint of claim 13, wherein the upper end of the lever is hinged on the pin on the upright which provides its movement, while the other end, the lower end, is elbow-shaped, curved towards the inside of the knee brace, and comprises a slot also elbow-shaped, intercepted by a pin which is integral with the cursor of the patellar bracket.

Claim 16 (new): The articulated knee brace joint of claim 14, wherein the upper end of the lever is hinged on the pin on the upright which provides its movement, while the other end, the lower end, is elbow-shaped, curved towards the inside of the knee brace, and comprises a slot also elbow-shaped, intercepted by a pin which is integral with the cursor of the patellar bracket.